

**CLAIMS**

1. A free flowing dry back-up insulating material comprising :

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- from 67 to 96% by weight of fly-ash;
  - from 2 to 15% by weight of a heat sensitive binder;
  - from 2 to 7% by weight of a non-wetting agent;
  - from 0 to 10% by weight of a heat expandable material;
- and
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- from 0 to 1% by weight of a dust suppressant.

2. The material for claim 1, wherein:

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- the fly ash consists of cenospheres;
  - the heat sensitive binder is selected from the group consisting of boric acid and anhydrous boron oxide;
  - the non-wetting agent is selected from the group consisting of calcium fluoride, magnesium fluoride and barium sulfate;
  - the heat expandable material is selected from the group consisting of vermiculite and graphite; and
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- the dust suppressant is selected from the group consisting of kerosene, mineral oils and vegetable oils.

3. The material of claim 1, wherein said material comprises:

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- from about 89.5% to 90% by weight of said fly ash;
  - about 8% by weight of said heat sensitive binder;
  - about 2% by weight of said non-wetting agent; and
  - from about 0 to 0.5% by weight of said dust suppressant.
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4. The material of claim 2, wherein said material comprises:

- from about 89.5% to 90% by weight of said fly ash;
- about 8% by weight of said heat sensitive binder;
- about 2% by weight of said non-wetting agent; and
- from about 0 to 0.5% by weight of said dust suppressant.